

assumed.¹⁷ An electronic interface allows new entrants to submit the service order to Ameritech in a prescribed format with all the relevant information, without intervention of the operator -- which accounts for 100% of the labor costs in Ameritech's calculations.

71. Ameritech's own presentations and documentation on EDI represent the system as follows:

"EDI," when you see it in capital letters, means: "Computer-to-computer communication of basic business data, in standard formats, among firms that regularly conduct business with one another. ... "Computer-to-computer" means that no humans intervene, so there is less likelihood of keying errors, mishandled or lost forms, and a general lessening of the volume of paper that companies have to deal with."¹⁸

This public document goes on to note:

Today the use of EDI is becoming a way of doing business. Studies have shown that companies can save between \$5 and \$45 for every document they replace with an electronic transaction set.¹⁹

72. An example of the appropriate cost of even a partially automated process -- SWBT in Texas -- is about \$1.00 per service order.²⁰ This is a ratio of no less than **[Subject to Ameritech Protective Order]** to 1. That is, Ameritech's estimated cost of taking service orders based on largely manual processes is about **[Subject to Ameritech Protective Order]** times as

¹⁷ Michigan Weighted Unbundled Services Service Order Cost, Bate stamped page 000155. MPSC Case No. 11280.

¹⁸ *Electronic Service Ordering*, Version 3.0 © 1996 Ameritech, Introduction, page 1.

¹⁹ Id.

²⁰ Texas PUC Docket No. 14940, Stipulation and Agreement, Paragraph 6, signed by SWBT, the Texas PUC, Time Warner Communications, and a number of other parties.

large as SWBT's costs based on an automated process.²¹ While SWBT's service ordering process is far from adequate, the comparison does show that by automating, as SWBT did, costs can be reduced dramatically.²²

73. Moreover, where service ordering is automated, telephone companies often choose not to charge their own retail customers, because the costs are so low. In Georgia, for example, Bell South offers what the company calls its *Complete Choice* plan. Under the plan, customers pay \$30.00 a month for their local phone service and *any number of about twenty calling features*. "Best of all," as the company puts it, "you have the flexibility to choose and change features as often as you want -- *at no extra cost*."²³ (Emphasis added.) Customers are allowed to *change* their selection of features as many times as they wish *without* any additional charges. Bell South is able to offer its customers this ability to change their selection of vertical features because this can be done by customers dialing in and using an *automated* process to make their own selection of features.

74. Ameritech overstates the true costs of service order taking in another way as well. For example, Ameritech reports ****[Subject to Ameritech Protective Order]**** minutes for service

²¹ Michigan Weighted Unbundled Services Service Order Cost, Bate stamped page 000155. MPSC Case No. 11280.

²²According to Ameritech's own cost studies, it is more expensive to take service orders for Remote Call forwarding than for unbundled loops. If anything, therefore, SWBT's \$1.00 service order charge should be an upper-limit for a reasonable service order charge for unbundled loops in a wholesale environment.

²³The local service charges covered by the \$30.00 per month excludes charges FCC, 911, TeleRelay, Wire Maintenance and Directory Listing. This information was obtained from a bill-insert in Georgia. The information can be verified by calling Bell South's service ordering center at 1-800-356-3094.

order taking for unbundled loops.²⁴ This time estimate is based on Ameritech's retail experience. Ameritech does not account for the fact, however, that when a retail customer orders local service, the operator will also try to sell the customer a variety of other services, such as caller ID and other lucrative vertical features. Therefore, what Ameritech reports as labor time for service order taking is partially time spent on marketing and selling retail customers other services. The cost of taking a service order for an unbundled loop would not include such labor time.

75. The service ordering charges proposed by Ameritech greatly disadvantage new entrants in competing with Ameritech. To appreciate the extent to which the one-time charge of \$49.76 would disadvantage new entrants, consider that basic local exchange service for business and residential customers is in the neighborhood of \$10 per month (in addition to end-user common line charges, taxes, and other charges that apply to the customers of all carriers equally). Even if a new entrant were significantly more efficient than Ameritech and offered service at \$2.00 less than Ameritech, this cost advantage would be totally eliminated if the end-user were served by means of an unbundled loop. The service ordering charge alone would absorb the new entrants cost savings for over 24 months. Thus, this service ordering charge alone, which is inflated far above a true TELRIC cost-based rate, makes it near impossible to use unbundled loops in a manner that is commercially viable other than for a narrow range of customers.

76. From what I can tell from Ameritech's documentation, Ameritech's personnel automatically opted for conservative high-end estimates, which would raise the costs, based on very

²⁴ Michigan Weighted Unbundled Services Service Order Cost, Bate stamped page 000155. MPSC Case No. 11280.

sketchy estimates from E-mails sent to various departments in 1996, asking for time estimates for certain activities and the percentage of occurrence for such activities to be provided to the Arthur Andersen team. The responding E-mails do not reflect a time and motion study or any other scientific type of study. Instead, the E-mails use phrases such as “ballpark figure,” or “if you need to select a number.”²⁵ The estimates provided in these memos give the requesting person ranges to choose from. This impression that Ameritech deliberately chose the high end of each range in order to inflate costs is, of course, corroborated by the errors in Ameritech’s other cost studies, which systematically overestimate costs.

77. *Line-connection charges are also inflated.* Again, Ameritech does not adequately reflect the cost savings available from automated processes for service ordering and line-connection. For example, a large portion of the costs identified by Ameritech are caused by “coordination” activities. These costs are greatly reduced when efficiency enhancing automated processes are used.

78. Further, Ameritech’s line-connection charges are based on unjustifiable assumptions that simply serve to inflate the price to competitors. For example, Ameritech’s cost study for line-connection charges²⁶ identifies that in every instance Ameritech needs to run jumper cables. Clearly, this is not the case. When a customer shifts from Ameritech to a new entrant who will serve the customer by means of an Ameritech unbundled loop and unbundled port, there is no need to run a

²⁵Memo, July 1, 1996 [**Subject to Ameritech Protective Order**]; Memo, April 29, 1996 [**Subject to Ameritech Protective Order**]. Submitted in MCI’s Arbitration with Ameritech Illinois, ICC Docket No. 96-AB-006. Ameritech’s service ordering studies are not state specific, but were conducted for its five state serving area.

²⁶Michigan Unbundled Loop – Nonrecurring Costs, Average Loop (Bates stamped page 000156), MPSC Case No. 11280.

jumper cable. Yet Ameritech reflects no cost savings from such orders, even though they are likely to be a significant percentage of CLEC orders, if not the vast majority certainly in the beginning.

Unbundled Loops

79. Ameritech's unbundled loop studies conform neither with the FCC TELRIC methodology nor with proper principles for economic costing. Specifically, the unbundled loops studies are deficient in that:

- a) Ameritech inappropriately lowers its own estimates for capacity utilization of its outside plant facilities for purposes of costing unbundled loop facilities to be leased to competitors.
- b) Ameritech does not base its alleged costs on a least-cost network as required under TELRIC. Its models (AFAM, LEIS/LEAD/PLAN) do not eliminate stranded facilities nor do they re-design for optimal feeder lengths.
- c) Pole costs do not reflect any sharing by cable operators and other companies and therefore overstate Ameritech's costs.

80. *Ameritech inappropriately lowers the fill rates in view of competition.* Ameritech admits it uses a lower fill rates for loops in calculating prices to competitors that it uses in its own planning and studies. In his Affidavit in MPSC Case No. 11280, Ameritech cost witness Mr. Richard J. Florence explained that Ameritech used lower rates of capacity utilization for purposes of costing unbundled loops because: "we developed objective utilization goals that realistically reflect efficient network use."²⁷ He added that the lower capacity utilizations used in the cost studies reflect forward-

²⁷ Florence Affidavit, page 10, MPSC Case No. 11280.

looking conditions. Mr. Florence's argument that capacity utilization rates are lower on a forward-looking basis assuming a competitive market than in the current, monopoly market is counter-intuitive and implausible. As a market becomes more competitive, companies become more cost effective. Since capacity utilization is a critical factor in the costs for telecommunications network facilities, companies will do everything in their power to use capacity as efficiently as possible. Thus, Ameritech's "assumption" that, as local exchange markets grow competitive, there will be a lower rate of utilization than Ameritech has thus far used in its *own* studies, simply serves to disadvantage its competitors by artificially inflating their costs for the most essential piece of the local telephone network.

81. Interestingly, Ameritech's own internal cost and engineering manuals discuss the need to increase rates of capacity utilization. A most informative document on the necessity to increase utilization rates is for example, Ameritech's "Target Percentage Fill for Digital Switches"²⁸ which is addressed to Ameritech's Directors and Managers responsible for switch engineering. This document details the need to increase utilization from a current rate of **[Subject to Ameritech Protective Order]** to **[Subject to Ameritech Protective Order]** on digital switches. Indeed, Ameritech notes on page 2: "if the office is designed with the proper concentration ratio and load factors, the switch could theoretically, be loaded up to **[Subject to Ameritech Protective Order]** of the line capacity." Ameritech also notes on page 1 of the document that "if implemented with the beginning of 1993, could represent **[Subject to Ameritech Protective Order]** of dollars in capital

²⁸ Ameritech, *Target Percentage Fill for Digital Switches*: This information letter provides direction for the increase of the target percentage fill for digital switches to 97 percent, AM GL CSI-000168, Issue 1, December 1992.

avoidance.” Most relevant to the discussion at hand, however, is the following observation made on page 4:

It will take a while before a comfort zone is reached for both Traffic Engineering and NAC, but in order *to position us as a competitive low cost unit provider*, and keeping a high percentage switch utilization, a **[Subject to Ameritech Protective Order]** percent line fill recommendation does not seem unrealistic. (Emphasis added.)

In sum, Ameritech itself recognizes that in a competitive environment, it will have to raise utilization rates, not lower them -- here, expressed in terms of switching facilities, but equally relevant to outside plant facilities such as loops.

82. Another important cost document which forms the basis for most of Ameritech’s cost studies, the AOE (Ameritech Operating Environment) document, prescribes with respect to rates of capacity utilization to be used in loop studies as of August 1995, on page 21: “Ameritech **[Subject to Ameritech Protective Order]** factors should be used.” This requirement pertained to all portions of the loop: feeder, distribution, drop and structure. The same recommendation was made for all other network components, such as switching, interoffice facilities, etc.

83. Using different, and lower, rates for capacity utilization in determining what to charge competitors is additionally inappropriate because the models used by Ameritech already account for all the possible sources of spare capacity. Indeed, Ameritech’s AOE document explicitly states “[Subject to Ameritech Protective Order]”. Specifically, AOE prescribes the following:

[Subject to Ameritech Protective Order]²⁹ (Emphasis added.)

²⁹ AOE, page 5.3.

Moreover, it is also obvious from AFAM that spare capacity for deficient pairs and administrative purposes are already included in the model. In short, there is no legitimate basis to all of the sudden lower the rates of capacity utilization in setting prices to competitors.

84. From an economic perspective it is also inappropriate to *artificially lower* the rates of capacity utilization in setting prices to competitors. First, it forces new entrants, as purchasers of unbundled network elements, to pay for spare facilities that Ameritech will use to serve the very customers for which the new entrants want to compete. That is, every time a new entrant purchases an unbundled loop it pays a subsidy for spare facilities to Ameritech, which favors Ameritech at the expense of new entrants.

85. Second, Ameritech's practice of recouping spare capacity for future customers from current customers also stands in contrast to market realities faced by new entrants. New entrants cannot recover the spare capacity for future customers from their current customers -- they simply do not have enough current customers. New entrants, by contrast, have no choice but to recover the spare capacity from those customers for whom this capacity is put in place -- future customers. That is, because new entrants do not have a monopoly customer base, they cannot impose the inter-generational transfers that Ameritech proposes to use its monopolist position to take advantage of.

86. Third, because new entrants have few or no existing customers from whom to recover spare capacity for future customers, by default, the stockholders of such firms must assume the risk for such investments. That is, if future customers for whom the network is built do not materialize, then the stockholders will absorb the subsequent losses. Ameritech's practice, in contrast, is relatively risk-free. Because Ameritech continually recoups the investments for future

customers from its current customers, the company is able to shield its stockholders against the aforementioned investment risks. That is, since current customers (including CLECs) already pay for spare capacity for future customers, Ameritech stockholders are relatively unaffected if fewer new customers materialize than anticipated.

87. The competitive disadvantage faced by new entrants, therefore, is two-fold. First, new entrants will subsidize Ameritech's investments for the very customers for which new entrants may want to compete. Second, new entrants must compete against a company, Ameritech, that is able to shift part of the risk of operating in local exchange markets onto its customers, rather than its shareholders.

88. *The fill factor on the Litespan Plug-in Investment (257C) is too low.* Ameritech's use of a capacity utilization rate of **[Subject to Ameritech Protective Order]** for its Litespan 2000 Channel Units³⁰ in computing prices for competitors is also much lower than the utilization rate of **[Subject to Ameritech Protective Order]** that Ameritech uses for itself, as indicated in Ameritech's own "1995 Plug-In Update" report. As discussed above, there is no legitimate basis for using the lower utilization factor in calculating prices of unbundled elements to new entrants. Further, Ameritech's practice here is particularly harmful to the interest of new entrants since the Litespan plug-in units represent a very large portion of the total cost of unbundled loops.

89. *AFAM does not model a least-cost network.* In Michigan in Case No 11280 and in Ohio, in Case No. 96-022-TP-UNC, Ameritech provided documentation and other materials on its AFAM model. I have examined those materials and Ameritech's testimony on the model and the

³⁰ Attachment to ATAM012(d), Ameritech Michigan, MPSC Case No. U-11280.

answers given by Ameritech witness in deposition on unbundled loop cost studies in Ohio.

90. AFAM is a critical model in Ameritech's unbundled loop studies. According to Ameritech, the AFAM model, in conjunction with some other models, redesigns Ameritech's existing loop facilities to include only state-of-the-art technologies.³¹ AFAM, however, does little more than replace the copper feeder on certain routes with fiber technologies. Obviously, merely replacing copper with fiber on select routes does not establish a least cost, forward-looking network. For example, there is no determination in AFAM of whether there are stranded or underutilized facilities. That is, AFAM, while it contains a near 100% inventory of all feeder facilities, does not determine whether or not the network is actually efficient. Specifically, when asked the question: "***[Subject to Ameritech Protective Order]**" Ameritech answered: "***[Subject to Ameritech Protective Order]**." ³² Yet, AFAM includes a 100% inventory of Ameritech's feeder facilities. Without an efficiency analysis, there is no basis to assume that *all* of those facilities are efficiently placed. Where they are not, the model generates inappropriate costs.

91. Further, AFAM is restricted in a way which limits the benefits of newer technologies. *Specifically, the feeder/distribution interface is fixed in AFAM.* That is, AFAM does not, and cannot, adjust the length of the feeder itself.³³ This means that the model restricts any substitution of fiber-based feeder facilities for copper-based distribution facilities. AFAM also does not allow

³¹For a description of the AFAM model, see Florence Ex. A, Schedule 5. MPSC Case No. 11280.

³² Ohio, Case No. 96-922-TP-UNC, Ameritech's response to MCI's Data Request, Item 58.

³³ Ohio, Case No. 96-922-TP-UNC, Ameritech's response to MCI's Interrogatories, Item 15: "AFAM does not perform any feeder length adjustments to the feeder inventory."

rerouting feeder facilities even if it is more efficient. In fact, AFAM lacks the capability to do such an analysis. As is well known, however, state-of-the-art networks are built with fiber facilities, particularly for longer loops, that replace both the traditional copper feeder -- as well as a portion of the copper distribution network -- in an attempt to push the efficiencies of fiber facilities as far out to the end-user as possible. Indeed, new entrants typically enter the market with a feeder/distribution network that looks very different from the historical architecture employed by Ameritech.

92. The FCC did not specify that TELRIC studies should assume that the length of the feeder should be assumed constant, in contrast to its discussion of switch locations, and thus implied -- appropriately -- that no such assumption should be made. As a matter of economics, a forward-looking least cost analysis of loop facilities would not assume a static feeder distribution interface. Ameritech's cost study inflates prices to competitors because it reflects the historic situation reflected in Ameritech's inventory of feeder facilities constructed over decades of installing copper loops rather than least cost forward-looking engineering practices.

93. *Ameritech does not take into account any use of its poles by Cable TV companies and others.* Typically, Ameritech shares its pole facilities with other companies, such as electric utilities and Cable TV companies.³⁴ Indeed, when Ameritech shares its poles with electric utilities, the electric utility and Ameritech will often jointly own the pole facilities. Ameritech notes that this shared ownership is accounted for in its unbundled loop studies by virtue of the fact that its total investments in poles is lower than it would be if it were to own 100% of the poles. However,

³⁴ In response to MCAM 12, Ameritech states that about 72 entities, mostly Cable TV companies, share Ameritech's poles. MPSC Case No. 11280.

Ameritech does not reflect in its studies whether Cable TV companies and others also use Ameritech's pole facilities.

94. Because poles are non-volume sensitive costs that need to be allocated between all users of those facilities, if pole facilities are used approximately evenly between Ameritech, electric utilities and Cable TV companies, then the expenses of constructing and maintaining poles should be split three-ways. This is simply a matter of allocating shared costs across three or more users of the facilities, a procedure fully consistent with the FCC's TELRIC methodology.

Unbundled Switching Charges

95. Unbundled switching should be priced to new entrants on a flat-rate, as opposed to usage-sensitive, basis. This rate structure better reflects the manner in which Ameritech actually incurs costs for switching than Ameritech's proposed rate structure, which includes a usage component. Most -- if not all -- of the cost of the switch are non-usage sensitive costs so that the marginal cost of additional usage on the switch truly approaches zero. For example, Ameritech's vendor contracts, discovered in Illinois state proceedings, indicate that the price of a switch to Ameritech is based on the number of lines that can be served not on usage levels. The FCC recognized that flat rates can adequately reflect the cost structure of unbundled switching in its First Report and Order (CC Docket No. 96-98) ¶ 810. Flat rates also ease competitive concerns. Ameritech's marginal costs of additional local switch usage approach zero. It is thus able to set retail rates reflecting additional usage costs approaching zero. As long as unbundled switching is offered to new entrants at a flat rate, this is not a concern. However, if new entrants must pay usage charges, then Ameritech is in a position where it can offer retail rates reflecting virtually zero cost while its

competitors' rates must reflect the usage charges they are required to pay Ameritech. Ameritech can use this gap anticompetitively to offer retail prices to selected users that are lower than its competitors must pay for unbundled switching. This concern is not hypothetical. Ameritech's tariffs in Illinois, for example, include steep discounts for large volume customers that result in retail charges below Ameritech's average unbundled switch usage costs.

96. Even if unbundled switching is based on usage, Ameritech's cost studies supporting the rate elements suffer from a number of methodologically and arithmetic errors. The cumulative effect of these errors is that the proposed rates overstate the true economic costs. First, fill rates for switch ports are too low and inconsistent with Ameritech's own cost manuals. As it did in proposing inflated prices for loops, Ameritech again assumes, for purposes of setting prices for unbundled switches a lower capacity utilization than it uses for itself. On page 11 of his Affidavit in MPSC Case No. 11280, Mr. Florence states that Ameritech determined that the objective fill for switch ports is ****[Subject to Ameritech Protective Order]**** percent.

97. However, Ameritech's own internal documents indicate that Ameritech itself recognizes that, in a competitive environment, it will have to raise utilization rates, not lower them. For example, the previously quoted Ameritech's "Target Percentage Fill for Digital Switches"³⁵ details the need to increase utilization from ****[Subject to Ameritech Protective Order]**%** to ****[Subject to Ameritech Protective Order]**%** on digital switches. Indeed, Ameritech notes on page 2: "if the office is designed with the proper concentration ratio and load factors, the switch could

³⁵ Ameritech, *Target Percentage Fill for Digital Switches*: This information letter provides direction for the increase of the target percentage fill for digital switches to 97 percent, AM GL CSI-000168, Issue 1, December 1992.

theoretically, *be loaded up to* ****[Subject to Ameritech Protective Order]**** *percent of the line capacity.*” The document then goes on to note on page 4 that:

It will take awhile before a comfort zone is reached for both Traffic Engineering and NAC, but in order *to position us as a competitive low cost unit provider*, and keeping a high percentage switch utilization, a ****[Subject to Ameritech Protective Order]**** percent line fill recommendation does not seem unrealistic. (Emphasis added.)

98. The issue of keeping a minimal amount of spare capacity on hand is, in theory, similar to the efforts of all firms to minimize the cost of production by keeping inventories at a minimum.

The principle is succinctly stated in a standard text in the Operations Research literature:

JIT [Just In Time] production is based on the logic that nothing will be produced until it is needed. Need is created by the product being pulled away or used [...] The objective in just-in-time production is to *reduce inventory* as much as possible by meeting demand only as it is needed. (Emphasis added.)³⁶

Obviously, the principles espoused in Ameritech’s cost manuals are fully consistent with the behavior of cost minimizing firms in other industries. It is inconsistent, therefore, for Ameritech to claim, in setting prices for its competitors, that on a *forward-looking basis* utilization rates will be lower.

99. Over time, utilization of newer technologies should be higher, not lower than those traditionally used. Ameritech’s own engineering document “Target Percentage Fill for Digital Switches³⁷” explains that with newer technologies utilization rates should increase: ****[Subject to Ameritech Protective Order]****. In fact, as this document notes on page 2: “the switch could,

³⁶ See, *Fundamentals of Operations Management*, Second Edition by Nicholas J. Aquilano, Richard B. Chase, and Mark M. Davis Irwin, 1995, Page 510

³⁷ Ameritech, *Target Percentage Fill for Digital Switches: This information letter provides direction for the increase of the target percentage fill for digital switches to 97 percent*, AM GL CSI-000168, Issue 1, December 1992. Page 2.

theoretically, be loaded up to ***[Subject to Ameritech Protective Order]** percent* of the line capacity.”

100. The previously mentioned AOE (Ameritech Operating Environment) document also notes that the switch for normal lines should have a ***[Subject to Ameritech Protective Order]**%* rate of utilization. For Integrated SLC lines (digital lines), the rate is ***[Subject to Ameritech Protective Order]**%*. For trunks, the switch should run -- and be costed -- at usable capacity.³⁸ *Usable capacity* is defined in the same AOE document in a manner consistent with the general industry use of this term as allowing spare capacity only for maintenance, administration, and deficient facilities. Specifically, the AOE document defines usable capacity as follows: ***[Subject to Ameritech Protective Order]***.³⁹

101. On page 4.1 of Ameritech’s AOE (Ameritech Operating Environment) cost manual, cost analysts are instructed not to apply any additional capacity adjustment: ***[Subject to Ameritech Protective Order]***. That is, if Ameritech conducts the proper cost analysis, all CCS will have already been assigned so that there is no spare capacity left for which fill adjustments need to be made.

102. *Ameritech fails to properly account for the difference between host and remote switches.* Ameritech fails to properly account for the fact that not all of its end-offices are stand-alone host switches; indeed, most of Ameritech’s switches are remote switches. For example, Ameritech has ***[Subject to Ameritech Protective Order]** 5ESS* host switches, ***[Subject to Ameritech*

³⁸ AOE, page 4.1, as of October 1993.

³⁹ Id, page 5.1.

Protective Order]** Nortel host switches and **[Subject to Ameritech Protective Order]** Siemens host switch, but no less than **[Subject to Ameritech Protective Order]** 5ESS remotes, **[Subject to Ameritech Protective Order]** Nortel remotes and **[Subject to Ameritech Protective Order]** Siemens remotes.⁴⁰ That is, Ameritech deploys more than **[Subject to Ameritech Protective Order]** times as many remote as host switches.

103. Remote switches depend on a host switch for a variety of functions, such as the ability to provide certain vertical features. No features are available on a remote without a host, only dialtone is available for limited intra-office calling. By assuming -- for purposes of calculating prices to competitors -- that all switches are host switches that require programming, when in fact 75 percent of its switches are remote, Ameritech overestimates programming expenses.

104. *Economically viable ULS requires common transport.* Ameritech has refused to offer new entrants access to (and pricing for) common transport in conjunction with unbundled switching. Instead, it plans to offer only dedicated and shared interoffice transport. There is no legitimate technical basis for Ameritech's refusal to permit interconnection based on common transport. Ameritech's refusal simply serves to raise its competitors' costs.

105. Dedicated and shared transport are described on pages 12 through 13 of Mr. O'Brien's Affidavit in MPSC Case No. 11280. On page 8, Mr. O'Brien states: "Dedicated interoffice transport provides an interoffice transmission facility that is dedicated to a single telecommunications carrier."

106. Shared transport comes in two types. The first type is between *two* Ameritech

⁴⁰ MCI 1st Set of interrogatories to Ameritech, nos. 16 and 17.

Michigan wire centers. The second one is between an Ameritech Michigan and another telecommunications carrier's wire center.

107. It is important to note here that both types of shared transport are *point-to-point* arrangements. That is, Ameritech's shared transport arrangements require that carriers specify beforehand which locations will be served by the shared transport facilities and that they purchase trunk ports in those locations.

108. This contrast sharply with *common transport* that would allow carriers to terminate traffic throughout Ameritech's network *without having to previously specify or designate the points of termination*. Under true common transport, as it is used in switched access services, carriers hand-off their traffic at the tandem, and receive call terminating functionality throughout Ameritech's network on a *call-by-call* basis. Thus, common transport would allow CLECs to share in Ameritech's economies of scale.

109. Interestingly, it is my understanding that the Wisconsin Commission on February 20, 1997, made an oral decision that Ameritech should offer common transport. The fact that Ameritech continues to deny CLECs common transport in Michigan should alert this Commission to the strategic significance of common transport and to Ameritech's lack of compliance with the checklist in refusing to provide it.

110. Ameritech's refusal to offer common transport severely handicaps competitors that use unbundled switching by depriving them of the benefits of the economies of scale of the existing network. Because CLECs will not generate sufficient traffic volumes to order point-to-point connections for all of the central offices of Ameritech from or to which calls may be placed, as a

practical matter, CLECs will be forced to use Ameritech's switched access services or resale of Ameritech's toll usage service.

111. This is contrary to this Commission's position that the statute required new entrants to be able to share in the economies of the incumbent LECs' networks. In paragraph 11 of its Order, the FCC notes:

The incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly. As we pointed out in our NPRM, the local competition provisions of the Act require that these economies be shared with entrants.

As discussed above, by refusing to offer common transport, Ameritech prevents CLECs from sharing the economies inherent in Ameritech's transmission network.

112. Ameritech's refusal to charge for common transport also permits it to double charge for certain facilities. Consider a situation in which a call originates on the unbundled switch element of CLEC A and terminates on the unbundled switch element of CLEC B. Because CLEC A is required under the *shared transport* arrangements to purchase a trunk port at the terminating end-office, both CLEC A and CLEC B have to purchase a trunk port at the terminating end-office. However, Ameritech will *not* terminate the call on CLEC B's ULS Trunk Port, but only on CLEC A's Trunk Port. Thus, Ameritech's insistence on shared transport instead of common transport permits it to reap a double recovery.

113. By contrast, in an efficient network consistent with TELRIC, one would not reserve *two* trunk ports to terminate *one* call. Though the Affidavit and the attached tariff sheets are unclear as to exactly which charges apply, it appears that inefficient arrangements are forced upon the new

entrants because Ameritech is unwilling to offer common transport.

114. Further, Schedule 2 of Mr. O'Brien's Affidavit, in MPSC Case 11280, seems to indicate that Ameritech proposes to charge the IXC switched access charges for certain calls originating on CLEC A's unbundled switch that are handed-off to an IXC at the IXC POP. Further, as Mr. O'Brien's schedule 2 indicates, it appears that Ameritech will charge the IXC switched access when it terminates on the unbundled switch even though the CLEC and the IXC have established direct connections. Ameritech proposes to do so *even though the IXC is not a customer of Ameritech in this situation*.

115. Ameritech's plan apparently is to ensure its own hold on lucrative access charges at least for terminating access even where local service is actually being provided by a competitor, so long as that competitor uses unbundled switching. If the CLEC and the IXC have established direct connections from the ULS to the POP then the CLEC should have the exclusive right to any access charges that apply. The access charges are part of the revenues inducing the CLECs to enter the local market. Moreover, an IXC that has chosen to do business with a CLEC should not be assessed any access charges by Ameritech because *the IXC simply is no longer Ameritech's customer*. The IXC is now served by the CLEC. Ameritech's grabbing access charges even in these circumstances deprives the IXC of a choice of local access providers. Thus, Ameritech's non-cooperation impedes competition in both local and long distance markets.

116. For purposes of determining the appropriate charges for traffic coming to and going from the unbundled switch, the element should be treated as if it were a switch owned by the CLEC. That is, it should make no difference whether the traffic that is routed over Ameritech's network

originated on a CLEC's unbundled switch or on the CLEC's own switch. That should be the meaning of leasing an unbundled network element.

117. This also means that if a call placed by an Ameritech customer terminates on a CLEC's unbundled switch, the CLEC should be able to charge Ameritech terminating switched access charges. When a CLEC leases an unbundled switch, it should be entitled to all the revenues that switch generates when it is used by other carriers, whether they are other CLECs or Ameritech itself. Ameritech, however, does not appear to acknowledge this. *See* Scenario 12, O'Brien Schedule 2, in MPSC Case No. 11280. The situation here is analogous to one where the CLEC leases dedicated transport facilities. If Ameritech or other carriers want to share those leased facilities, they should pay.

Cost of Capital

118. Ameritech's determination of cost of capital is inconsistent with this Commission's determinations in its First Report and Order. Paragraph 702 of the Order states:

Based on the current record, we conclude that the currently authorized rate of return at the federal or state level is a reasonable starting point for TELRIC calculations, and incumbent LECs bear the burden of demonstrating with *specificity* that the business risks that they face in *providing unbundled network elements and interconnection services* would justify a different risk of capital or depreciation rate. *These elements are bottleneck, monopoly services that do not now face significant competition.* (Emphasis added.)

Thus, Ameritech would need to demonstrate that Ameritech's *wholesale operations* -- in providing unbundled network elements and interconnection services -- face risk that warrant the return on equity advocated by Ameritech in order to justify departure from current authorized rates of return.

119. Ameritech, in contrast, departs from current authorized rates of return without

making any such demonstration. The analysis performed by its expert, Mr. Domagola, does not speak specifically to the wholesale operations of Ameritech in any way.

120. Instead, Mr. Domagola's affidavit speaks merely of increased risk in a competitive market. Although if telecommunications markets become more competitive, this will increase the risk for all firms operating in this industry, this increased risk will not be uniform. And it will most likely affect the wholesale and retail divisions of the incumbent LECs very differently. Ameritech itself recognizes this point; as Ameritech witness Dr. Currie notes in his Ohio testimony: "Ameritech manages a portfolio of services that have different risk characteristics."⁴¹ Therefore, consistent with this Commission's imposition of the burden of proof on incumbents, Ameritech should be required to separately identify the increase in risk for its *wholesale* divisions and the increase in risk for the *retail* divisions. Ameritech, however, provided no evidence on this point.

Depreciation

121. Ameritech departed from traditional practice by applying considerably shorter economic lives in its cost studies than those prescribed by the FCC. For purposes of calculating prices for competitors, Ameritech assumed economic lives of twelve years for outside plant facilities, and five years for switches and circuit equipment. These calculations overstate the true economic costs of providing unbundled network elements and interconnection services. In contrast, the FCC prescribes economic lives of 16 years for digital switching, 12 years for digital circuits, and 25 and 20 years for underground and buried metallic cable, respectively.

⁴¹Dr. Currie, on behalf of Ameritech Ohio, Ohio, Case No. 96-922-TP-UNC, p. 18, lines 1,2.

122. Again, this Commission determined that incumbents could deviate from current depreciation rates only if it demonstrates that this is warranted as a result of offering unbundled network elements and interconnection. The pertinent part of the First Report and Order reads as follows:

incumbent LECs bear the burden of demonstrating with specificity that the business risks that they face in providing unbundled network elements and interconnection services would justify a different risk of capital or depreciation rate. These elements are bottleneck, monopoly services that do not now face significant competition. First Report and Order ¶ 702 (emphasis added).

123. Technological change and advances are largely introduced by equipment manufacturers, such as Lucent Technologies, Digital Equipment Corporation, Northern Telecom, Siemens, and others. Not only do these firms develop and introduce new network technologies, they also introduce the ever increasing array of vertical features, such as call-waiting, call forwarding, etc. In general, it is competition between equipment manufactures that is propelling technology forward.

124. In view of this, the market for equipment manufacturing is largely unaffected by the introduction of competition in local exchange markets in *Michigan*. This is particularly true since the equipment market is a *global market*, with international firms competing to provide equipment (switches, multiplexers, cross-connects, etc.,) to telecommunications firms all over the world. Therefore, the argument that the introduction of potential competition in *local* markets in Michigan is going to affect and speed-up this already highly competitive *global* manufacturing market overstates the benefits of competition on this particular activity.

125. Ameritech's prices are therefore based on economic lives that are far shorter than those prescribed by the FCC, without justification. This needlessly raises its competitors' costs.

Ameritech's Shared and Common Cost Studies

126. *Ameritech's claimed shared and common costs are at least 50 percent higher than is justifiable.*

127. Ameritech's shared and common cost study, contrary to the requirements of the FCC and good economics, does not identify the shared and common costs of an efficient wholesale operation. As demonstrated below, even where activities were appropriately included, the cost figures used overstate appropriate TELRIC costs by at least 20 percent.

128. Ameritech contracted with the accounting firm of Arthur Andersen to perform a study of its shared and common costs. Under the guidance of Ameritech, the Arthur Andersen team analyzed the expense accounts for a number of Ameritech's business units and other sources. Specifically, it analyzed the expenses associated with: 1. Network Services; 2. Ameritech Information Industry Services (AIIS); 3. Corporate; and 4. Centralized Services. After expenses were identified for 1996, a projection was made for 1997 budgets. It is the 1997 budgets that were actually used in Ameritech's shared and common cost study.

129. The 1997 budgets were allocated among various business units, including AIIS which offers unbundled network elements, by means of various allocators (such as personnel, direct expenses). Some of the 1997 expenses, however, are *directly* assigned to network elements and interconnection services. The direct assignments are based, in large part, on interviews by the Arthur Andersen team in which Ameritech personnel were asked to identify how much of their time they anticipated devoting to working on unbundled network element issues.

130. *Ameritech's shared and common costs are not forward-looking in an economic*

sense. As specified by this Commission, the shared and common costs allocated to network elements and interconnection in determining prices to CLECs should represent a reasonable allocation of forward looking common costs. First Report and Order ¶¶ 682, 694. Further, Ameritech bears the burden of proving the “specific nature and magnitude of these forward-looking common costs.” *Id.* ¶ 695.

131. Ameritech’s shared and common cost studies, however, are not forward-looking. Instead, Ameritech’s studies based on 1997 budget projections.⁴² Ameritech’s argument that the use of 1997 budget projections ensures that the costs are forward-looking is baseless. Ameritech’s 1997 budget projections ensures only that the costs will represent Ameritech’s historic, embedded costs. Forward-looking costs, as this Commission has explained, are the costs incurred by the most efficient, least-cost technology and procedures available.

132. *Ameritech’s own witness acknowledges that the shared and common costs were not examined to ensure that cost were efficiently incurred.* Testifying on behalf of Ameritech, Mr. Broadhurst, the Arthur Andersen accountant that conducted and supervised Ameritech’s shared and common cost studies, explained that they “did *not* perform an independent evaluation of the efficiency of Ameritech’s operations.”⁴³ That is, Mr. Broadhurst acknowledges that Ameritech’s shared and common costs were never examined to see if they were least-cost and consistent with FCC’s TELRIC methodology.

⁴²The 1997 budget projections used in the shared and common costs studies are for Ameritech Network Services, AIIS (Ameritech Information Industry Services), Corporate, and Centralized Services. See, D. Broadhurst Aff. 4. MPSC Case No. 11280.

⁴³ D. Broadhurst Aff. 7 (emphasis added). MPSC Case No. 11280.

133. *Shared and common costs for an efficient firm are lower than those for an inefficient firm.* The following comments filed by NYNEX before the Public Service Commission of New York illustrate the effect of Ameritech's decision to use embedded costs rather than forward-looking costs. In its Initial-Post Hearing Brief, NYNEX stated the following:

The choice of forward-looking technologies *lowers* the Company's [NYNEX] expense estimates in two key ways. First of all, since aggregate forward-looking investment in the Company's network is significantly below embedded investment, Carrying Charge Factors ("CCF") computed on the basis of current expense to investment ratios are applied to a smaller investment base. *The result is an estimate of administrative and other expenses that falls significantly below current levels.*⁴⁴

134. NYNEX further notes that:

Secondly, apart from the effect of the reduced size of the investment, some of the specific CCFs reflect the much lower expense-to-investment ratios associated with the forward-looking technology choices made by the Company. For example, the forward-looking network includes a much higher proportion of fiber in the loop than the embedded network. Since separate maintenance CCFs are calculated for fiber and copper loop plant, and since the fiber CCF is far lower than the copper CCF, the higher proportion of fiber translates automatically into a lower loop maintenance expense.⁴⁵

135. Since the expense-to-investment ratios are lower with forward-looking technologies, the shared and common costs associated with an optimally efficient wholesale operation should likewise be lower. After all, the shared and common cost of a company generally stand in relation to the size and scope of its underlying operations; i.e., the larger the company's operations, the more

⁴⁴ New York Public Service Commission, Case 95-C-0657, 94-C-0095, 91-C-1174, at 28 (emphasis added).

⁴⁵ Id. at 29 (emphasis added).